

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-8 (canceled).

Claim 9 (new): A two-dimensional photonic crystal surface-emitting laser comprising:

a photonic crystal which has a photonic crystal periodic structure located in or near an active layer which emits light when carriers are injected thereto, said photonic crystal periodic structure including a base medium and at least one medium defining lattice points, the base medium and the at least one medium having different refractive indices in a two-dimensional periodic array; wherein

said photonic crystal period structure is a substantially square lattice structure or a substantially rectangular lattice structure; and

said photonic crystal period structure is classified into pg by a classification method under IUC (International Union Crystallography in 1952).

Claim 10 (new): The two-dimensional photonic crystal surface-emitting laser according to Claim 9, wherein the lattice points have a shape defined by a combination of relatively large approximately circular portions and relatively small approximately circular portions.

Claim 11 (new): The two-dimensional photonic crystal surface-emitting laser according to Claim 9, wherein the at least one medium defining each of the lattice points includes at least two media having different refractive indices or a medium with a refractive index distribution.

Application No. 10/550,596

July 15, 2008

Reply to the Office Action dated April 16, 2008

Page 3 of 9

Claim 12 (new): A two-dimensional photonic crystal surface-emitting laser comprising:

a photonic crystal which has a photonic crystal periodic structure located in or near an active layer which emits light when carriers are injected thereto, said photonic crystal periodic structure including a base medium and at least one medium defining lattice points, the base medium and the at least one medium having different refractive indices in a two-dimensional periodic array; wherein

said photonic crystal period structure is a substantially square lattice structure or a substantially rectangular lattice structure;

the lattice points are substantially triangular lattice points; and

said photonic crystal period structure is classified into pm, cm, or pl by a classification method under IUC (International Union Crystallography in 1952).

Claim 13 (new): The two-dimensional photonic crystal surface-emitting laser according to Claim 12, wherein the at least one medium defining each of the lattice points includes at least two media having different refractive indices or a medium with a refractive index distribution.